

## WEINLAND PARK RESIDENTS' ACTIONS TOWARDS LITTER AND BROWNFIELDS

What Community Residents Perceive Can Be Done To Address Concerns Regarding Litter and Brownfields in Weinland Park

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### ABSTRACT

Exposures to environmental health hazards generate health concerns that affect the individuals living in unhealthy environments. This qualitative study was set in Weinland Park, which is an urban community in Columbus, Ohio. Poverty, lack of access to care, and majority minority population are three health risk factors prevalent in this community. Preliminary focus groups with community residents identified Brownfields and litter as priority environmental concerns. This study is a secondary analysis of data collected as part of a larger pilot study that sought to develop environmental public health (EPH) literacy for salient EPH concerns identified by Weinland Park residents and to facilitate the identification of community-driven strategies to address the EPH concerns. The purpose of this study was to describe residents' perceptions of actions that individuals and the community can take to address health concerns from litter and Brownfields in the community. The theoretical framework for this study was the Integrative Model of Environmental Health, specifically the Health Protection Domain component of the model, which addresses actions and the efficacy of those actions in addressing environmental health risks.

Purposive sampling was used to recruit residents for two focus groups (n=17), Go-along interviews (n=7), photo-voice (n=3), and individual interviews (n=7). Inductive content analysis using in vitro and in vivo codes was used to generate statements representing themes and patterns identified from data. Triangulation, member-checks and reflective journaling were used to enhance rigor. Study findings showed that individual actions to address the environmental hazards were individuals taking responsibility for picking up litter, holding community clean-up events, and the residents have the opportunity to learn more about Brownfields within the neighborhood.

Community health entails positive attitude of the residents, shared vision and willingness to act together to pursue common goals. Active community involvement is essential to provide sustainable solutions to local environmental health issues. Findings will contribute to scholarly literature on environmental health, health protection actions, and community engagement. Resident-identified strategies will guide future collaborative researcher-community driven efforts to address the community's health concerns.

**KEYWORDS:** Environmental Health, community involvement, public health nursing.

## **Chapter 1**

### **Introduction**

A holistic approach towards health promotion and the prevention of illness and injury was adopted at the inception of the nursing profession, with the role of nursing primarily being to modify the environment in ways that enhanced health and healing. In Nightingale's view, any factor that affected the health of the patient and that of the public was relevant to nursing practice (Pope, Synder, & Mood, 1995). Therefore, the environment is considered a domain of nursing and a major focus of public health nursing.

Williams (2012) defines public health nursing (PHN) as a specialty that emphasizes population focus, community orientation, health promotion and disease prevention emphasis, and population-level concern and interventions. PHN integrates community involvement and knowledge of the entire population with the personal clinical understanding of health and illnesses gleaned from the experiences of individuals and families within the population. PHN also involves the practice of promoting and protecting the health of populations using the knowledge of nursing, social and public health sciences (Williams, 2012).

Some examples of roles of PHN in community engagement involve collaborating with the community to develop targeted health promotion and disease prevention activities, as well as providing health teaching, case management and direct care to individuals and families who are members of vulnerable populations and high risk groups. The public health nurse thus becomes an advocate for members of the community to voice problems and desires and an agent who articulates and translates health and illness experiences of diverse and often vulnerable individuals and families through specific interventions and advocacy to the health planners and policy makers (Williams, 2012).

The Intervention Wheel, which was previously named the Public Health Intervention Model and is often known as the Minnesota model or the Wheel, is a representation of population-based public health practice (Keller & Strohschein, 2012). The graphic representation of the model depicts 17 public health intervention categories, three levels of population-based

practice (individual/family, community, systems), and the words “population-based” within the model to reflect the assumption of the model as one that meets criteria of population-based practice (Keller & Strohschein, 2012), which is defined by 5 characteristics. The five characteristics of population-based practice are that it: (a) focuses on defined populations, (b) considers the multiple determinants of health, (c) identifies interventions to meet problems and issues guided by an assessment of community health, (d) emphasizes prevention, particularly primary prevention, and (e) targets practice at three levels (individual/family, community, systems). The model has been cited in the scope and standards of public health nursing (American Nurses Association, 2002) and has been widely used in practice, education, and research. The model is being updated currently by Keller and others.

The 17 intervention categories in the model are grouped into five sub-groups of interventions that are related to each other and in fact are implemented together to address an identified health need or issue. Only one of the interventions –*Delegated Functions*– is considered a dependent function; the other 16 are considered independent nursing functions. However, although the model was developed based on public health nursing practice, the interventions also are used by other public health practitioners. The Intervention Wheel defines the framework of population-based public health nursing practice (Keller & Strohschein, 2012).

Environmental health is one of the priority areas of the Healthy People 2020 objectives due to the long recognized relationship between environmental risks and the underlying factors contributing to diseases (United States Department of Health and Human Services, 2011). There is virtually no major chronic disease to which environmental factors do not contribute either directly or indirectly. Factors in the environment that are major health determinants for individuals and populations broadly affect their quantity and quality of life. Exposures to environmental health hazards such as litter as well as contaminated water and toxic sites such as Brownfields are major causes of premature morbidity and mortality leading to potential outcomes such as cancer, neurotoxic effects, and developmental and reproductive effects as well as exacerbation of cardiovascular and respiratory diseases (Dixon, Hendrickson, Ercolano, Quakenbush, & Dixon, 2009). Efforts to identify and eliminate these precursors of illness through individual and community actions can help reduce these environmental health risks for individuals and the larger community in which they reside.

The setting for this qualitative study was Weinland Park, which is an urban community in Columbus, Ohio. The community may be considered a vulnerable community because of some of the prevalent health risk factors in this community such as poverty, lack of access to health care as well as majority of the residents being of ethnic or minority population. The Weinland Park neighborhood is bounded by Chittenden Avenue on the north, Grant Avenue and Conrail Railroad on the east, East Fifth Avenue on the south, and North High Street on the west. The neighborhood is located to the southeast of Ohio State University's main campus. Weinland Park includes almost 5,000 residents in just over 2,000 households (Barbash & Bartley, 2006).

The Weinland Park Community Civic Association (WPCCA) leaders have sought to build alliances and coordinate with other organizations that serve as strong resources to meet the social and human needs of the community's residents. The neighborhood's plan stresses revitalization and improved quality of life of its residents through partnerships with OSU and major stakeholders in the area to build on its health and vitality, improve solid waste management, and most importantly engage more neighborhood residents in collaborative community activities between neighborhood groups, organizations and businesses (Barbash & Bartley, 2006).

This study is a secondary analysis of data collected as part of a larger pilot study "Building Environmental Public Health Literacy with an Urban Community." The aims of the pilot study were to develop environmental public health (EPH) literacy for salient EPH concerns identified by the Weinland Park community and to facilitate the identification of community-driven strategies to address the EPH concerns. A community-based participatory research (CBPR) orientation was used to develop a partnership with the community in an effort to enhance community engagement and input in the development of environmental health in Weinland Park.

## Chapter 2

### Review of Literature

Zschaebitz and Lancaster (2012) state that in every environment there are potential risks to health. Public health nurses must therefore understand how to assess the health risks posed by the environment and develop educational and preventive interventions to help individuals, their families, as well as communities understand and decrease their risks (Zschaebitz & Lancaster, 2012). The Institute of Medicine recommended that all nurses have a basic understanding of environmental health principles and that these principles be integrated in all aspects of nursing practice, education, advocacy and research (Pope et al., 1995).

The concept of a healthy community is rooted in the recognition that a healthy community seeks to improve the health of its citizens by applying the concepts and principles of health promotion at the local level. Darling and Randel (1996) define a healthy community as one that provides for a quality and sustainable environment with clean air, soil and water, free of excessive noise and smoke. A healthy community also provides adequate levels of economic and social development with living wage, safe and healthy job opportunities for all, and supports for healthy development of children and adolescents. The healthy community also ensures health, social equity, and social relationships that are supportive and respectful, with robust civic engagement, socially cohesive and supportive relationships, families, homes and neighborhoods, as well as safe communities free of crime and violence. A healthy community should also meet the basic needs of all complete and livable communities including affordable and high quality schools, parks and recreational facilities, child care, libraries, financial services, and other daily needs (Darling & Randel, 1996).

To achieve a healthy community, involvement through partnerships between community members and healthcare professionals are critical for collaborative decisions that address a community's health needs. A basic tenet for community empowerment is that the community defines its own agenda. For change to be long-term and relevant to the needs of the community, it must come from the community members themselves (Anderson & McFarlane, 2004). In the larger study from which this secondary analysis study is drawn, a community-based Steering

Committee used findings from three preliminary focus groups conducted with Weinland Park residents to identify the two salient environmental public health concerns -Brownfields and litter- as the focus for the study.

Greenberg, Lee, and Powers (1998) noted that Brownfields are eyesores which lower a neighborhood's property value and drive away investors. In the worst cases Brownfields become centers of illegal drug-related activities and dumping grounds for litter, trash and hazardous products. Some residents may opt to leave the neighborhood, and the exodus of residents often escalates and leads to more property abandonment. Homicides, infant mortality, teenage pregnancy, acquired immune deficiency syndrome (AIDs), tuberculosis, and asthma may increase because only the poorest and sickest remain in these communities (Greenberg et al., 1998). Brownfields require remediation and the interaction among public health, civil planning, and most of all the input of the surrounding communities to ensure that the health of those living nearby is protected. The American Society on Testing of Materials protocol for "Sustainable Brownfields Redevelopment" embraces the principle of consultation with and full participation by impacted communities in development decisions. In addition, local residents want not only that Brownfields are remediated but also that they are redeveloped in ways that upgrade their neighborhood (Greenberg et al., 1998).

Litter also has environmental consequences. Wind, weather, and traffic move litter into lawns, landscape areas, alleyways, and parking structures. When litter collects near storm drains debris is likely to wash into local waterways and pose potential for environmental contamination. According to the 2009 National Visible Litter Survey and Litter Cost Study from Keep America Beautiful (2010), about 85% of litter observed in public areas was as a result of individual behavior with 81% of this behavior occurring intentionally. Besides individual behavior community environmental factors such as prevalence of existing litter outside of trash receptacles as well as fewer trash receptacles and recycling containers also were noted to influence littering behavior (Keep America Beautiful, 2010).

Prevention of litter does require changing individual, community, and system behaviors about the environment. Making proper litter disposal convenient and accessible, ensuring consistent and on-going clean-up efforts, and making use of awareness and motivational campaigns can help keep communities clean and litter-free (Keep America Beautiful, 2010).

Focusing on individual responsibility as well as efforts to beautify the communities can result in lower rates of littering behaviors. Through research and field testing, Keep America Beautiful developed a 5-step Attitude Change System as a primary tool for identifying the need to change behavior and as an effective way to achieve sustainable improvement in a community's quality of life. Public education and awareness were identified as the bedrock tools of behavior change especially when dealing with litter around the home and in the community at large (Keep America Beautiful, 2010).

The Integrative Model of Environmental Health (IMEH) (see Figure 1) proposed by Dixon and Dixon (2002) was used to guide the development of an EPH vocabulary for two of the EPH concerns highlighted by Weinland Park residents in the pilot study. The IMEH brings together four broad domains of knowledge and describes their interrelationships. The Physiological Domain addresses the chemical and physiological processes through which agents in the environment have effects on the health of persons exposed. The Vulnerability Domain addresses the broad array of individual and community characteristics that may alter pathways of the Physiological Domain leading to variations between persons in environmental health risks experienced and, consequently, to health disparities. The Epistemological Domain addresses processes of personal thought and social knowledge by which people come to an understanding of the effects of the environment on health that provides a basis for actions. The Health Protection Domain concerns engagement in environmental health, especially actions that people may take to reduce environmental health risks for self or those under one's care or for the larger community in which one participates. The four domains are all closely interrelated, and a change in any domain leads to changes in other domains through both direct and indirect paths (Dixon & Dixon, 2002).

This study focused on the Health Protection Domain of the IMEH (Dixon & Dixon, 2002) by addressing how individuals and communities can avoid environmental health exposures to litter or Brownfields. The Health Protection Domain includes three elements that are conceptualized as a process: (a) concerns about environmental health where one sees personal or community implications for health related to exposure to toxic agents or other environmental conditions, (b) sense of efficacy referring to confidence in the conjoint ability of a group to carry



out actions for the reduction of environmental health hazards, and (c) personal or collective actions related to the improvement of environmental health (Dixon & Dixon, 2002).

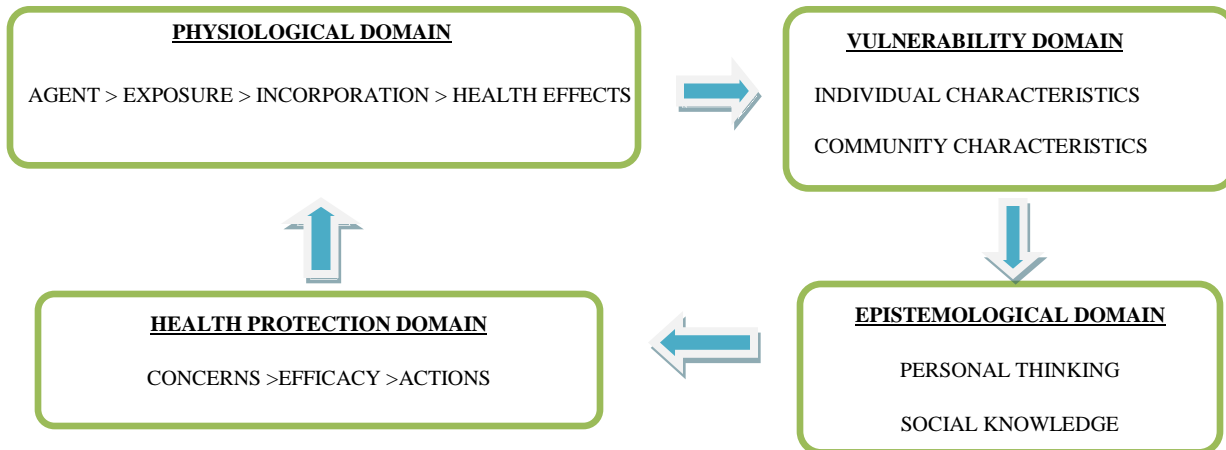


Figure 1. Integrative Model for Environmental Health (Dixon & Dixon, 2002)

## Problem Statement

Environmental health researchers may lack skills to enable them communicate effectively with communities. On the other hand, community residents may lack the understanding of environmental public health concepts and the knowledge necessary to address environmental health concerns in their communities. It is necessary to bridge this gap in order for the public health experts to better serve and work with the community. One way to bridge that gap is by developing a common vocabulary between researchers and community members on salient environmental health concerns determined by the community. A common vocabulary enhances research translation into feasible community action.

The desire that residents play an active role in decisions about their neighborhood has generally not been matched by decision-making tools that reflect the needs and concerns of residents. Zarcadoolas, Timm, and Bibault (2001) used “cooperative composing” that involved partnering with the community residents to conceive, write, design, and edit an easy-to-read, linguistically and culturally appropriate print guide. The primary motivator behind using “cooperative composing” was the belief that well-informed active residents will bring about greater collaboration in environmental planning (Zarcadoolas et al., 2001).

The IMEH can be used as a guide in research aimed at improving environmental health. Nurses are well positioned to participate in and provide leadership for interdisciplinary efforts to improve environmental health thus the model can be used as a guide in seeing their particular environmental health issue comprehensively (Dixon & Dixon, 2002).

The purpose of this study is to use a CBPR orientation to identify what Weinland Park community residents perceive as actions they can take to address the issue of litter and Brownfields in Weinland Park, to protect their health and that of their community. The research questions are:

- (1) What do the residents describe as actions they can take as Individuals to address the problems of litter and Brownfields in Weinland Park?
- (2) What do residents describe as actions the community can take to address the problems of litter and Brownfields in Weinland Park?
- (3) How do the residents' perspectives of actions to address litter differ from the actions to address Brownfields in Weinland Park?

## **Chapter 3**

### **Methods and Design**

#### **Design**

This study is a secondary analysis of a larger study that was conducted adhering to the principles of community-based participatory research (CBPR) (Minkler & Wallerstein, 2008). The study was approved by the Ohio State University (OSU) Institutional Review Board. The larger study was funded by the OSU Center for Clinical and Translational Science. Guided by the principles of CBPR, a steering committee comprised of community residents, university researchers, and community partners guided the research focus, modes of data collection and analysis, and dissemination of study findings to the larger community.

Qualitative research is the best way to address the research questions in this study. The purpose of this research is to learn and gather data from the participants (community residents) in a setting and way in which the participants experience the research problem, the meaning they attach to the problem, and how they interpret what they experience. Qualitative research allows the researcher to discover and be just to the perceptions and complexity of the participants' interpretations -hence generating new hypotheses in future studies (Richards & Morse, 2007).

#### **Population and Sample**

The population of interest in this study is Weinland Park community residents. Through the larger study, purposive sampling was used to recruit residents from this population with knowledge and experience in the area. This sampling technique was chosen to increase credibility of the sample. Recruitment of participants was done by posting flyers in public places. The sample was balanced by zip-code, race, gender, age, homeowners, and renters. A toll-free telephone number was included on the recruitment flyers for potentially interested participants to contact the research project coordinators. All interested participants were contacted prior to the study to verify eligibility, explain the research, verify their intent to participate in the study and answer any pertinent questions. Eligibility criteria included being a resident of Weinland Park

community, age 18 years and older, and able to give consent to participate in the study. The exclusion criterion was individuals who could not read or speak English.

## **Procedure**

**Data collection.** Four methods of data collection were used: focus groups, individual interviews, go-along interviews, and photo-voice. Parallel questions for the focus groups, individual interviews, and go-along interviews were developed by the researchers based on the IMEH (Dixon & Dixon, 2002) framework. All participants gave informed consent before data collection began.

Two focus group discussions with community residents were held in a permissive, nonthreatening environment in a public facility in the community and were facilitated by a skilled moderator with the assistance of one or two co-moderators. Participants shared their ideas and perceptions of litter and Brownfields in Weinland Park and were able to respond to ideas and comments of other participants. Focus groups lasted approximately 90 minutes. Light refreshments were served.

Individual interviews which were conducted by a member of the research team lasted approximately 25 minutes. In go-along interviews, a researcher (interviewer) walked through the neighborhood with the resident and used field observation and open-ended questions to elicit the resident's experiences and interpretations related to litter and Brownfields in Weinland Park. Photo-voice participants collected data independently using disposable digital cameras to record photographs of litter and Brownfields in the community. Two of the photo-voice participants met with researchers in a debriefing session to present and discuss their photographs and the meaning behind their photographs; the third photo voice participant met with researchers individually to debrief.

Focus groups, the group photo voice debriefing session, individual interviews, and go-along interviews were audio-recorded; recordings were transcribed by a contracted transcriptionist and verified by the researcher who collected the data. Hand-recorded notes were taken by the interviewer for the individual interviews and the go-along interviews that were not recorded.

Confidentiality of the study participants was maintained. An incentive payment of \$50 was given to all research participants who participated in the study.

**Data analysis.** Content analysis was used in this study to inductively generate broad descriptions of the phenomena guided by the IMEH Health Protection Domain (Dixon & Dixon, 2002) components of concerns, efficacy, and actions as they relate to litter and Brownfields in Weinland Park. Both in vitro and in vivo coding were used to generate codes or labels for phenomena in the data. The transcripts were coded independently by the principal investigator and the research advisor who met to compare codes and resolve coding discrepancies. Following this level of coding, excerpts of the coded transcripts were pasted onto individual index cards that were then sorted by the different codes. The principal investigator and the research advisor sorted the index cards independently and then compared the sorted codes; mutual agreement was attained. Inductive analysis was used to re-group codes into categories through an abstraction process (Elos & Kyngas, 2007), thus generating fewer concepts and categories describing words and phrases that share the same meaning (Mayring, 2004). This inductive process continued by grouping the categories into summary statements that represented overall themes and patterns in the data related to concerns, efficacy, and actions related to health related to litter and Brownfields in Weinland Park.

**Enhancing rigor.** Rigor was enhanced through triangulation (method) and member checks (in focus groups). Also, maintaining a reflective field journal (Lincoln & Guba, 1985) of the investigator's state of mind in relation to what was happening was done frequently to safeguard against influence of personal biases and to record the investigator's thoughts about data analysis and activities related to data analysis (Lincoln & Guba, 1985).

## **Limitations**

Data for this study were self-reports of residents' perspectives and were not verified objectively. In addition, using data already collected limited the iterative aspect of data collection and analysis and the potential for capitalizing on the emergent nature of qualitative research.

## Chapter 4

### Results

Presentation of the research results is organized by the three research questions.

#### **RQ1: Actions individual residents' take to address problems of litter and Brownfields in Weinland Park.**

**Litter.** Individual residents stated that voluntarily picking up litter in the neighborhood has a ripple effect because neighbors and friends tend to follow suit. The motivation to voluntarily pick up litter depends on the length of time an individual has lived in the neighborhood and whether or not the individual owns or rents a house within the Weinland Park area. The residents also suggested that individuals should close dumpsters to avoid breeding flies and requested resources to purchase supplies such as disposable fly traps and litter picker-uppers.

Residents advocated for more trash receptacles within the neighborhood. Also, individuals stated that there is need to have leaders (block captains) to educate residents on proper dumpster usage as well as a parental responsibility to educate children on proper use of dumpsters. Some residents felt that the presence of litter was a visible indicator that people just don't care about their neighborhood. During an individual interview, one resident stated that,

*"Litter makes the neighborhood look like it's not cared for and therefore people tend to conclude that it's not safe to live here because it looks rough, because people don't care and the city doesn't care."*

The attitude of indifference, passivity, helplessness, and hopelessness was linked by the residents to the imminent poverty within the area. In addition, residents voiced the idea that urge each other to take it upon themselves to educate those people caught littering as well as develop a sense of self responsibility to report the presence of bulk items to the Columbus City Council for immediate pick up.

**Brownfields.** Individual residents did not think that it was their responsibility to take any personal action in addressing the issue of Brownfields, largely due to what they perceived as the general lack of knowledge about Brownfields among most of the residents in the neighborhood. One of residents mentioned that,

*“Brownfields give the neighborhood a sense of abandonment and there has not been much of an incentive to improve the properties around the Brownfields either.”*

Nevertheless, they expressed the desire to be educated more about Brownfields within the area. One option for learning about Brownfields that was suggested was having meetings with Brownfield property owners sponsored by the Weinland Park Community Civic Association (WPCCA).

## **RQ2: Actions residents’ take as a community to address problems of litter and Brownfields in Weinland Park**

**Litter.** The community residents stated that there are volunteer clean-up days in the neighborhood on a weekly basis where each block has specific days to clean up in the neighborhood. They also held community events to clean up and raise funds to buy resources to assist in the clean-up process. Residents believe that successful community clean-up events can be achieved through better communication and having a common goal which also helps to set a good example for the younger people in the neighborhood. The WPCCA, church groups, and the neighboring schools also were involved in keeping the community free of litter. A resident stated that,

*“The community members were really active with picking up litter. Our pastor and members of the church group used to come out every Saturday and help pick up the trash and then we would have pizza and the pastor would take the group to the movies.”*

Residents suggested that litter collection would motivate neighborhood residents and contribute to a sense of pride in the community. A local housing development company was involved in cleaning the residents’ yards and neighborhood streets.

Residents identified factors that facilitate community organization to address the problem of litter in the neighborhood. Having representatives from the neighborhood blocks attend the

Civic Association meetings and having leaders (block captains) helps keep residents organized and assists residents in acquiring the resources they need in order to address the problems of litter in the neighborhood. The residents also stated that the issue of longevity- such as people who owned homes or have lived in apartments for more than 15 years- was a key factor in determining whether a resident was committed to the neighborhood. The residents suggested that a community center would help bring people together and would make it easier to address concerns within the neighborhood. Another method that was identified as possibly being helpful for mobilizing community residents was having an email or hard mail mailing list to serve as a periodic reminder to the residents to keep the neighborhood clean.

**Brownfields.** The residents stated that the WPCCA should be more involved in informing residents about how the Brownfield sites in the neighborhood can potentially affect their health. The residents also suggested that residents could get together to research the potential hazards of Brownfields in the neighborhood, give input and brainstorm during public meetings, and also gather more information about the sites from the Brownfield sites owners. Community residents rely on the WPCCA to be the liaison between the residents and the government in providing the residents with information on the health impacts of Brownfields. The residents suggested using the redeveloped land as additional space for a parking lot, community center, a swimming pool or a playground where children in the neighborhood can play. Some residents noted that initiating a strike was an option to take if there was a lack of communication and accountability from the Brownfield owners to the community residents.

### **RQ3: Actions the system takes to address the problems of litter and Brownfields in Weinland Park**

**Litter.** The residents stated that it would be helpful to have trash receptacles at strategic intervals such as halfway points between sidewalks and alleys or between street intersections in the neighborhood, especially in areas where there is a lot of trash such as near business premises and at the COTA bus-stops. The residents were impressed by some local businesses that have helped clean up the neighborhood and added more trash receptacles in the area within the last few months. During the school year the local school help to keep the area clean. The Columbus



City Council has also been helpful in addressing litter in the neighborhood by having more frequent trash pick-up days, especially the dumpsters in the alleys and sidewalks.

There are also church organizations that have been involved in volunteering to clean up the area. In addition the community has benefited from having in-mates carry out their community service within the neighborhood as well as the local boys and girls clubs having clean up days in the neighborhood to teach the children how to be responsible citizens. The residents also suggested that a law be passed prohibiting removal of trash that has been placed inside dumpsters and prohibiting dumping trash outside of the dumpsters. The residents also suggested having a littering charge to any individual that is caught littering. Other suggestions included having the Columbus City Council provide dumpsters that have locks in order to prevent dumpster ‘diving’ and to keep the smell from the dumpsters contained. Also, residents suggested ‘make-have’ incentives to motivate the residents by having the residents pay half of their trash bill to the City of Columbus with every trash items that they recycle such as old batteries and used furniture.

The residents also suggested that the landlords get involved in cleaning up around their rental properties. The business owners also should be responsible for putting trash bins near their businesses and having some of their employees pick up trash within a defined radius of their business premises. They were also suggestions to have an education campaign on dumpster usage especially for items that need to go into the dumpsters as well as have a call number available for the pick-up of bulk items such as furniture that should not be thrown inside the dumpsters.

**Brownfields.** The community residents suggested Brownfield property owners be accountable to the residents by cleaning up their sites and displaying information such as the names of the property owners as well as the chemical contaminants in the sites. A concerned resident during the Go-Along interview stated that

*“The companies that are planning on redeveloping Brownfields in the neighborhood should be able to explain to the residents and show actual proof that they did test the soil to make sure there is nothing potentially harmful in the soil or polluted in the air that could eventually be harmful to the residents.”*

Property owners should get actively involved in the community and redevelop the sites into something more that residents perceive to be needed or useful within the neighborhood such as a community center. Residents also thought that property owners should erect a gate fence around the Brownfield property even if it is in the process of being redeveloped.

The residents suggested that the city of Columbus needs to conduct periodic inspections of dilapidated buildings in order to keep the business owners up-to date on the conditions of their business properties within the neighborhood. The residents also suggested that there should be a law requiring that any building which has been in the neighborhood for a long period of time in an inhabitable state, should be knocked down by the city of Columbus or the business owners. The business owners should be fined and a tax levied on them to remediate their Brownfield sites with the neighborhood. Residents also should attend meetings to get more education on Brownfields. The city of Columbus, Ohio EPA, or the US EPA could present the residents with a report as an assurance that they will be accountable to the residents and the neighborhood at large.

## **Chapter 5**

### **Discussion**

This study was conducted adhering to the principles of Community-Based Participatory Research (CBPR) and involved active partnership with the community members and other community partners (Minkler & Wallerstein, 2008). The health professionals as well as the residents were both involved in the entire research process to determine the health needs of the community members and collaboratively plan interventions that cater to the community's health needs. Kulbok and Botchwey (2012) state that the CBPR approach helps increase the residents' awareness of and responsiveness of their health needs as individuals, families and as a community, and hence the community members are interested in partaking leadership roles in development of programs in the community while utilizing health professionals as consultants (Kulbok & Botchwey, 2012).

The research questions used in this study explored what the residents perceived as actions they took as individuals and as a community to address problems of litter and Brownfields in Weinland Park. The residents identified voluntarily picking up litter in the neighborhood as an individual responsibility. Successful community clean-up events were stated as achievable through better communication and sharing a common goal among community residents. The residents also stated the need for the Columbus City Council to add more trash receptacles at strategic parts of the neighborhood and have more frequent pickup days, as well as landlords and business owners to get more involved in cleaning up around their properties.

Residents also expressed their general lack of knowledge about Brownfields and the desire to be educated more about Brownfields within the neighborhood and the potential effects these sites have on their health by displaying the chemical contaminants in the sites. The residents suggested using the redeveloped land to build a community center where residents can get together. An unexpected finding was that actions were also identified at the systems level where requested that the Brownfield property owners present the residents with a report as an assurance of their accountability to the residents.

Minkler and Wallerstein (2008) stated that in order to achieve successful collaboration with a community, researchers need to strive to understand the point of view of the members of the community. The research team in this study worked collaboratively with the community, was responsive to the needs identified by the community members, and encouraged efforts to mobilize the community through community engagement that addressed environmental health issues regarding their health and the health of the community at large. Such an approach can help health professionals better understand and address the roots of the health issues in the community (Minkler & Wallerstein, 2008).

Several potential PHN interventions from the Intervention Wheel could be implemented to address study findings. *Disease and health event investigation* involves systematically gathering and analyzing threats to the health of the community, ascertaining sources of the threats and determining control measures (Keller & Strohschein, 2012). Data from this study can be used to further explore the relationship between two environmental health hazards –litter and Brownfields- and their health threat to the community through health assessments and health screenings. *Health teaching* is described as implemented through communication of facts and ideas and thereby changing knowledge, attitudes, values, beliefs, behaviors and practices of individuals, families, communities and systems (Keller & Strohschein, 2012). Public Health nurses can provide health teaching to address the health effects from these hazards as well as health teaching related to other actual or potential environmental health hazards.

*Community organizing*, which was emphasized during this study, is based on the principles of empowerment, community competence, and active participation (Minkler & Wallerstein, 2008). The larger study sought to help the community members look at the root cause of their problems while selecting issues that can unite them as members of the community, involve them in achieving a solution and thus further build a sustainable community. Beyond that focus it is important to engage the community by building coalitions to share information and resources that advocate for improvement in the health of the community as well as have a positive impact on the growth and development of vulnerable communities, such as Weinland Park.

Finally, *Policy Development and Enforcement* is another intervention that can be undertaken based on the findings of this study. As a public health intervention, the Intervention

Wheel describes Policy Development and Enforcement as helping to move key issues on to the policy agenda with the goal of creating a policy that will resolve the underlying issue (policy development) and enforcing those laws/regulations that were created as part of the developed policy issue (Keller & Strohschein, 2012). The study participant expressed interest in local laws to address litter as well as laws that would require Brownfield property owners to post information about the hazards on the site and the progress of efforts to address the hazards and remediate the site. Public health nurses can collaborate with the community to drive these issues to the decision-making agenda at the local and higher levels of government.

After the study was completed, a World Café forum was held. During this forum, Weinland Park community residents identified strategies that they felt would benefit them in the quest to collaborate with the health professionals to alleviate the environmental health problems they addressed during the study. These strategies will act as a guide to obtain further funding for collaborative researcher-community driven efforts to address those aforementioned community's environmental health concerns regarding litter and Brownfields in the community.

As previously noted, self-reported data and using data already collected were limitations identified in this study. Strengths of this study were adhering to the CBPR approach with active community involvement, the development of partnerships between health experts and the community residents, and the consistency of themes across the multiple methods of data collection (saturation of data).

## **Conclusion**

The findings in this study will contribute to scholarly literature on environmental health and health protection actions guided by the IMEH (Dixon & Dixon, 2002), and the development of a common vocabulary as well as a questionnaire of what the community residents know about litter and Brownfields. In addition, this study helped identify interventions that can be implemented and tested in the future.

The health of a community should be enhanced by fostering responsible leadership from within the community, having a shared community vision, and the willingness of community members to act together in order to pursue common goals (Cashman, Stenger, & Mullan, 2003).

Experts in environmental health can help empower communities to care for themselves through strong positive community involvement.

Public health nurses aim to create partnerships with individuals and communities in order to promote health. As advocates and ‘change partners,’ public health nurses can partner with community members to identify and address environmental health concerns through individual, collective community and system level actions. Active community involvement is essential to provide sustainable solutions to local environmental health issues.

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